

Abstract:

Method and Device for the Detection of Local Displacements and Rotations

Disclosed is a method for the detection of local displacements and rotations, wherein a sum signal and additionally a difference signal are formed from two separately generated signals of two transducer elements ( $W_1, W_2$ ), which are spaced from each other, and subsequently the formed sum signal and the formed difference signal are OR-operated.

Also disclosed is a device for doubling the local frequency of moving incremental scales. Said device comprises an encoder (1a, 1b, 1c), a magnetically sensitive transducer (9, 13), and a signal conditioning stage (6a, 6b) electrically connected thereto. The transducer comprises at least two sensorially active functional groups synchronously using sensorially active groups or sub-groups ( $W_1, W_2$ ) which are locally offset in relation to each other by a local phase  $\phi$  in order to scan the moving scale, and the functional groups comprise means enabling at least two independent partial signals  $S_1 = V * \sin(\omega t)$  and  $S_2 = -V * \sin(\omega t) + \phi$  to be produced.

(Figure 2)